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water, which they fetch wholly from Springs, whereof the Country is so full, that there is not a house but hath one nigh the door.

Advertisement concerning the Quantity of a Degree of a Great Circle, in English measures.

Some while since an account was given* concerning the *Quantity of a Degree of a great Circle*, according to the tenour of a printed *French* Discourse, entituled *De la*

* See N. 112, and N. 124 of *this* Tract. *Mesure de la Terre*. The Publisher not then

knowing what had been done of that nature here in *England*, but having been since directed to the perusal of a Book, composed and published by that known Mathematician *Richard Norwood* in the year 1636, entituled *The Seaman's Practice*, wherein, among other particulars, the compass of the *Terraqueous Globe*, and the *Quantity of a Degree* in *English* measures are deliver'd, approaching very near to that, which hath been lately observ'd in *France*; he thought, it would much conduce to mutual confirmation, in a summary Narrative to take publick notice here of the method used by the said *English* Mathematician, and of the result of the same; which, in short, is as follows:

A. 1635 the said Mr. *Norwood*, Reader of the Mathematicks in *London*, observ'd, as exactly as he could, the Summer-Solstitial Meridian Altitude of the Sun in the middle of the City of *York*, by an Arch of a Sextant of more than five foot *radius*, and found it to be 59 deg. 33'. And formerly (*vid. A. 1633.*) he had observ'd the like Altitude in the City of *London* near the *Tower* to be 62 deg. 1'. Whereupon he actually measured, for the most part, the way from *York* to *London* with Chains, and where he measur'd not, he paced it, (wherein, *he saith*, through custom he usually came very near the truth;) observing all the way he came, with a *Circumferentor*, all the principal Angles of position or windings of the way, with a competent allowance for other lesser Windings, Ascents and Descents; not laying these down by a *Protractor* after the usual manner, but framing a *Table* much exacter and fitter for this purpose; as may be seen in the *English* book it self. And by this Method and Measure he found the Parallel of *York* from that of *London* to be 9149 chains, every chain being six poles or ninety nine feet, $16\frac{1}{2}$ *English* feet to a Pole. Now, these 9149 Chains being equal to 2 deg. 28'. (the aforesaid Latitude between those two Cities) a little calculation makes it appear, that one Degree of a Great Circle, measured on the Earth, is 367196 of our feet, *numero rotundo* 367200, or 22254 Poles; which make 556 Furlongs and 14 Poles,

14 Poles, or $69\frac{1}{2}$ *English* miles and 14 Poles; 8 Furlongs to a mile, and 40 Poles to a Furlong. Which being compared to that measure of a Degree, which is deliver'd in the above-mention'd *French* Discourse, will be found to come very near it, they finding 73 miles *ferè*, at 5000 feet to an *English* mile, which make 365000 feet; whereas the $69\frac{1}{2}$ *English* miles and 14 Poles, found by Mr. *Normood*, amount to 367200 feet, reckoning 5280 feet to an *English* mile, as the true measure of it is; whence the difference between these two measures appears to be no more than 2200 feet, which is not half an *English* mile by 440 feet.

If any one desire to know further the whole *Circumference*, as also the *Diameter* and *Semidiameter* of the said Terraqueous Globe, according to this measure, he will easily find,

The Circumference to be	25056 <i>ferè</i> .
The Diameter,	7966
The Semidiameter,	3983

Observations made of the late Solar Eclipse on the first of June, 1676. st.v.

One, by *Francis Smethwick* Esquire, as followeth:

I *Nitium defectionis* Westmonasterii h.7. 50'. *post med. noctem*
Finis, h 9. 54 $\frac{3}{4}$. *Junii 1. 1676.*
Totius Eclipsis duratio, hora 2. 4 $\frac{3}{4}$.

Tempus observatum fuit cum horologio oscillatorio, vibrante minuta secunda, & correcto per observationes. Tubus adhibitus fuit bonæ notæ, pedum 7 $\frac{1}{2}$.

The other, by Mr. *Colson* at *Wapping*, near *London*, as followeth;

<i>Temp. juxta</i>		<i>Solis</i>	<i>Tempus correct.</i>	
<i>horol. oscill.</i>	<i>Phases.</i>	<i>alt.</i>	<i>ex altit.</i>	
h. . . "		0	h. . . "	
7.34.50		22.46	7.36. 0	
7.37.14		33.10	7.38.40	
7.39.10	dig.	33.30	7.40.48	
7.50.40	$\frac{1}{4}$	—	7.51.51	<i>Tubo optico æstim.</i>
dub. 8. 8.34	$1\frac{1}{4}$	—	8. 9.45	<i>Tubo optico mensur.</i>
8.17.25	$2\frac{1}{5}$	—	8.18.36	
8.27.10	$3\frac{1}{10}$	—	8.28.21	
9.39.—	$1\frac{1}{2}$	—	9.40.—	<i>Tubo æstim.</i>
9.43.—	$1\frac{1}{6}$	—	9.44.—	
9.48.—	$\frac{1}{4}$	—	9.49.—	
9.54.25	<i>non finita</i>	—	9.55.36	
9.55.55	<i>finita.</i>	—	9.57. 6	
4.26. 5	<i>Solis alt.</i>	32.10	4.26.56	
4.28.58		31.53	4.29.52	
4.31. 21		31.31	4.32.16	